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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,226	09/17/2003	Bruce B. Roesner	16165-005001	8463

20985 7590 02/08/2006

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EXAMINER	
AU, SCOTT D	

ART UNIT	PAPER NUMBER
2635	

DATE MAILED: 02/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/666,226	ROESNER, BRUCE B.	
	Examiner	Art Unit	
	Scott Au	2635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 December 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,13-19 and 24-27* is/are rejected.

7)☒ Claim(s) *6-12,20-23 and 28* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This communication is in response to applicant's response to an Amendment, which is filed December 6, 2005.

An amendment to the claims 1-28 have been entered and made of record in the Application of Rosener for a "Deep sleep in an RFID tag" filed September 17, 2003.

Claims 1-28 are pending.

Response to Arguments

Applicant's amendments and argument to the rejected claims are insufficient to distinguish the claimed invention from the cited prior arts to overcome the rejection of said claims under 35 U.S.C 102(a) and 35 U.S.C 103(a) as discussed below. Applicant's amendment and argument with respected to the pending claims 1-28, filed on December 6, 2005, have been fully considered but they are not persuasive for at least the following reasons.

On page 12, second paragraph, Applicant's argument with respect to the invention of Kruest that " the non responsive state being independent of supplied power, and the control logic responds to a wake command but ignores other commands in the command sequence while the tag is in the non responsive state, and the wake command response concludes the non responsive state" according to claim 19, is not persuasive.

Kruest teaches the RFID tag is cloaked for a predetermined time of 2-5 seconds. After the end of that predetermined time, within the control logic, it is inherent that there

is a command to wake the RFID tag from the cloaking event (col. 3 lines 25-48). The RFID tag is a passive device and during open circuit the tag is independent from the power supply from the interrogator (col. 3 lines 49-58).

Applicant's argument with respect of the invention of Kruest according to claims 1,15 and 27, is not persuasive. See the above claim 19 for similar response.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,3-4, 14-15 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Kruest (US# 5,963,144).

Referring to claim 1, Kruest discloses a passive radio frequency identification tag (i.e. see Figure 1) comprising: an antenna (16) (i.e. antenna); a radio frequency interface (108) (i.e. analog section) coupled with the antenna (16) (i.e. antenna) (col. 5 lines 1-20); and control logic (102) (i.e. tag core) that initiates a deep sleep state in response to an event, the deep sleep state (i.e. disconnected and noninterferring with RF field) comprising a non-responsive state that is independent of supplied power, and

the control logic providing a following state entered upon conclusion of the non-responsive state, wherein communications initiate from the following state (col. 2 line 62 to col. 3 line 15), Kruest teaches the RFID tag is cloaked for a predetermined time of 2-5 seconds. After the end of that predetermined time, within the control logic, it is inherent that there is a command to wake the RFID tag from the cloaking event (col. 3 lines 25-48).

Referring to claim 15, Kruest discloses a method comprising: receiving power in a passive radio frequency identification tag (i.e. see Figure 1); receiving commands in a command structure in the passive radio frequency identification tag (col. 2 lines 62-67); and entering a deep sleep state in the passive radio frequency identification tag, the deep sleep state comprising a reset of the command structure and a non-responsive state that is independent of supplied power (col. 3 lines 1-15). Kruest teaches the RFID tag is cloaked for a predetermined time of 2-5 seconds. After the end of that predetermined time, within the control logic, it is inherent that there is a command to wake the RFID tag from the cloaking event (col. 3 lines 25-48).

Referring to claim 27, Kruest discloses a passive radio frequency identification tag (i.e. see Figure 1) comprising: means (i.e. series of switch) for receiving power and commands in a command structure (col. 2 lines 62-67); and means (i.e. RC circuit) for entering a deep sleep state comprising a reset of the command structure and a non-responsive state that is independent of supplied power (col. 2 lines 53-55 and col. 2

line 63 to col. 3 line 15). Kruest teaches the RFID tag is cloaked for a predetermined time of 2-5 seconds. After the end of that predetermined time, within the control logic, it is inherent that there is a command to wake the RFID tag from the cloaking event (col. 3 lines 25-48).

Referring to claim 3, Kruest discloses the passive radio frequency identification tag of claim 2, wherein the command sequence comprises at least a portion of a binary search protocol (col. 5 lines 62-65) (i.e. digital signal consist of binary code).

Referring to claims 4 and 16, Kruest discloses the passive radio frequency identification tag and method of claims 2 and 15, wherein the deep sleep state initiates in response to an event comprising receipt of a deep sleep command (col. 2 line 63 to col. 3 line 15).

Referring to claim 14, Kruest discloses the passive radio frequency identification tag of claim 1, further comprising a non-volatile memory (col. 4 lines 64-67).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2-5 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kruest (US# 5,963,144) as applied to claim 1 above and further in view of Snodgrass et al. (US# 5,583,850).

Referring to claim 2, Kruest discloses the passive radio frequency identification tag of claim 1. However, Kruest did not explicitly disclose wherein the following state comprises an initial communication state from a plurality of communication states, wherein the plurality of communication states allow response to a sequence of associated commands when receipt of the command sequence begins in the initial communication state.

In the same field of endeavor of RFID system, Snodgrass et al. suggest wherein the following state comprises an initial communication state (310) (i.e. idle state) from a plurality of communication states (i.e. see Figures 11, showing a plurality of states with the initial idle state), wherein the plurality of communication states allow response to a sequence of associated commands when receipt of the command sequence begins in the initial communication state (col. 15 line 1 to col. 16 line 23).

One ordinary skill in the art understands that plurality of communication states of RFID system of Snodgrass et al. is desirable in the RFID system of Kruest because Kruest suggests RFID device is used to be tracked by the interrogator for identification (col. 2 lines 41-55) and Snodgrass et al. suggest RFID devices are used in such an application, as well as in applications where inventory, personnel, animals, packages, samples, mobile stations, and objects must be identified and tracked, there remains a need for communication apparatus and protocol having minimal complexity in circuitry, firmware, and software so that stations can be conveniently equipped and used at practical cost. Whether a communication system is practical depends largely on the system designer's choice of a communication protocol.

Referring to claim 3, Kruest in view Snodgrass et al. disclose the passive radio frequency identification tag of claim 2, Kruest discloses wherein the command sequence comprises at least a portion of a binary search protocol (col. 5 lines 62-65) (i.e. digital signal consist of binary code).

Referring to claims 4 and 16, Kruest in view of Snodgrass et al. disclose the passive radio frequency identification tag and method of claims 2 and 15, Kruest discloses wherein the deep sleep state initiates in response to an event comprising receipt of a deep sleep command (col. 3 lines 25-48).

Referring to claims 5 and 17, Kruest in view of Snodgrass et al. disclose the passive radio frequency identification tag and method of claim 4 and 15, Kruest discloses wherein the non-responsive state concludes in response to a first occurring event from event comprising an internal cessation of the non-responsive state (col. 6 lines 53-64) and wherein the non-responsive state concludes in response to a first occurring event from event comprising receipt of wake command from the interrogator (col. 3 lines 25-48).

Referring to claim 18, Kruest in view of Snodgrass et al. disclose the method of claim 17, Kruest discloses wherein the internal cessation of the non-responsive state comprises a voltage decay of a charged RC circuit (col. 6 lines 53-64).

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kruest (US# 5,963,144) as applied to claim 1 above and further in view of Alicot et al. (US# 5,990,794)

Referring to claim 13, Kruest discloses the passive radio frequency identification tag of claim 1, Kruest discloses wherein the antenna (16) (i.e. antenna) comprises a near-field coupling element (108) (i.e. see Figure 1). However, Kruest did not explicitly disclose wherein the tag operates in a high frequency band.

In the same field of endeavor of RFID devices, Alicot et al. disclose wherein the

antenna comprises a near-field coupling element configured to operate in a high frequency band (col. 2 lines 1-15) in a retail environment.

One ordinary skill in the art understands that high frequency band in the RFID system of Alicot et al. is desirable in the RFID system of Kruest because Kruest suggests the interrogator communicates with RFID tags through the RF field and the tag in the cloak state when responses to a logic command (col. 3 lines 1-13) and Alicot et al. suggest deactivating the RFID tag attached to an article before they are removed for the retail environment (col. 1 lines 12-25). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to include high frequency band in RFID system of Alicot et al. in the RFID system of Kruest with the motivation for doing so would allow the tags easily shielded or detuned by proximity to various materials and the human body.

Claims 19 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kruest (US# 5,963,144) in view of Shafer (US# 5,942,978).

Referring to claim 19, Kruest discloses a system comprising: a radio frequency identification (RFID) tag reader (i.e. interrogator) that sends commands including at least one sequence of associated commands used to identify an RFID tag (col. 4 lines 55-58); and multiple passive RFID tags, each tag comprising a radio frequency sub-system (108) (i.e. analog section) and control logic (102) (i.e. tag core) coupled with the radio frequency sub-system (col. 5 lines 60-65; see Figure 1), wherein the control

logic resets tag communications and initiates a non-responsive state in response to at least one event (col. 2 lines 53-55). Kruest teaches the RFID tag is cloaked for a predetermined time of 2-5 seconds. After the end of that predetermined time, within the control logic, it is inherent that there is a command to wake the RFID tag from the cloaking event (col. 3 lines 25-48). The RFID tag is a passive device and during open circuit the tag is independent from the power supply from the interrogator (col. 3 lines 49-58).

However, Kruest did not explicitly disclose each tag being attached to an article.

In the same field of endeavor of RFID devices, Shafer discloses each RFID tag being attached to an article (col. 1 lines 33-36 and col. 2 lines 9-14 and 31-39) and detaching from the article of the merchandise.

One ordinary skill in the art understands that attachable RFID tags of Shafer is desirable in the RFID tags system of Kruest because Kruest suggests passive RFID tags communicate with the RF field of the interrogator (col. 3 lines 1-15) and it obvious attachable RFID tags of Shafer in the communication system of Kruest in order to identify the specific article of merchandise the tag attached to and prevent unauthorized removal of the tag from the item (col. 1 lines 34-40).

Referring to claim 24, Kruest in view of Shafer disclose the system of claim 19, Kruest discloses wherein the non-responsive state also concludes upon internal cessation (col. 6 lines 53-64).

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kruest (US# 5,963,144) in view of Shafer (US# 5,942,978) as applied to claim 19 above and further in view of Atlkins (US# 6,661,336).

Referring to claim 25, Kruest in view of Shafer disclose the system of claim 24 above, Kruest discloses wherein each tag comprises an antenna (16) (i.e. antenna) and a circuit that comprise the radio frequency sub-system (108) (i.e. analog section) and the control logic (102) (i.e. tag core), and the internal cessation of the non-responsive state comprises a voltage decay of a charged RC circuit in the IC (col. 6 lines 53-64; see Figure 1).

However, Kruest in view of Shafer did not explicitly disclose the tag comprises of an integrated circuit.

In the same field of endeavor of RFID system, Atkins et al. disclose wherein each tag (i.e. see Figure 2) comprises an antenna(s) (4,5) and an integrated circuit that comprise the radio frequency sub-system (9) (i.e. modulator) and the control logic (7) (i.e. logic circuit) (col. 3 line 43-45 and col. 5 lines 40-55) communicating with reader (10).

One ordinary skill in the art understands that integrated circuit (IC) used in a tag of Atkins et al. is desirable in the RFID tag of Kruest in view of Shafer because Kruest suggests passive RFID tags communicate with the RF field of the interrogator (col. 3 lines 1-15), Shafer suggests attachable RFID tags to articles or merchandise items (col. 1 lines 34-40) and Atkins et al. also suggest tracking of articles with attachable RFID

tags (col. 5 lines 1-9). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to include the IC tags system of Atkins et al. in the communication system of Kruest in view of Shafer with the motivation for doing so would allow the flexibility of identifying the plurality of tags.

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kruest (US# 5,963,144) in view of Shafer (US# 5,942,978) and Altkins et al. (US# 6,661,336) as applied to claim 25 above and further in view of Alicot et al. (US# 5,990,794).

Referring to claim 26, Kruest in view of Shafer and Atkins disclose the system of claim 25, Kruest discloses wherein the antenna (16) (i.e. antenna) comprises a near-field coupling element (108) (i.e. see Figure 1). However, Kruest in view of Shafer and Atkins et al. did not explicitly disclose wherein the tag operates in a high frequency band.

In the same field of endeavor of RFID devices, Alicot et al. disclose wherein the antenna comprises a near-field coupling element configured to operate in a high frequency band (col. 2 lines 1-15) in a retail environment.

One ordinary skill in the art understands that high frequency band in the RFID system of Alicot et al. is desirable in the RFID system of Kruest in view of Shafer and Atkins et al. because Kruest suggests the interrogator communicates with RFID tags through the RF field and the tag in the cloak state when responses to a logic command (col. 3 lines 1-13) and Alicot et al. suggest deactivating the RFID tag attached to an

article before they are removed for the retail environment (col. 1 lines 12-25). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to include high frequency band in RFID system of Alicot et al. in the RFID system of Kruest in view of Shafer and Atkins et al. with the motivation for doing so would allow the tags easily shielded or detuned by proximity to various materials and the human body.

Claim Objections

Claims 6-12, 20-23 and 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Referring to claim 6, the following is a statement of reasons for the indication of allowable subject matter: the prior art fail to suggest limitations that where the control logic further provides a sleep state that is entered upon power up and an isolate state that is entered upon receipt of an isolate command, the sleep and isolate states being dependent upon supplied power, wherein the sleep, isolate and non-responsive states conclude upon receipt of a full wake command, and the sleep and isolate states, but not the non-responsive state, conclude upon receipt of a partial wake command.

Referring to claim 7, the following is a statement of reasons for the indication of allowable subject matter: the prior art fail to suggest limitations that where the control logic further provides a sleep state that is entered upon power up and an isolate state

that is entered upon receipt of an isolate command, the sleep and isolate states being dependent upon supplied power, wherein the sleep and non-responsive states, but not the isolate state, conclude upon receipt of a full wake command, and the sleep and isolate states, but not the non-responsive state, conclude upon receipt of a partial wake command.

Referring to claim 8, the following is a statement of reasons for the indication of allowable subject matter: the prior art fail to suggest limitations that where the control logic further provides a sleep state that is entered upon power up and an isolate state that is entered upon receipt of an isolate command, the sleep and isolate states being dependent upon supplied power, wherein the sleep and non-responsive states, but not the isolate state, conclude upon receipt of a full wake command, and the sleep state, but not the isolate and non-responsive states, conclude upon receipt of a partial wake command.

Referring to claim 9, the following is a statement of reasons for the indication of allowable subject matter: the prior art fail to suggest limitations that where the control logic further provides a sleep state that is entered upon power up and an isolate state that is entered upon receipt of an isolate command, the sleep and isolate states being dependent upon supplied power, wherein the sleep, isolate and non-responsive states conclude upon receipt of a full wake command, and the sleep state, but not the isolate and non-responsive states, conclude upon receipt of a partial wake command.

Referring to claim 10, the following is a statement of reasons for the indication of allowable subject matter: the prior art fail to suggest limitations that where the radio frequency interface comprises an analog portion of a complementary metal oxide semiconductor (CMOS) integrated circuit (IC), the control logic comprises a digital portion of the CMOS IC, and the internal cessation of the non-responsive state comprises a voltage decay of a charged RC circuit in the CMOS IC.

Referring to claim 11, the following is a statement of reasons for the indication of allowable subject matter: the prior art fail to suggest limitations that wherein the non-responsive state concludes upon internal cessation, the following state comprises an isolate state, and the deep sleep and isolate states conclude upon receipt of a full wake command.

Referring to claim 12, the following is a statement of reasons for the indication of allowable subject matter: the prior art fail to suggest limitations that wherein the non-responsive state concludes upon internal cessation, the following state comprises the non-responsive state reinitiated, and the deep sleep state concludes upon receipt of a full wake command.

Referring to claim 20, the following is a statement of reasons for the indication of

allowable subject matter: the prior art fail to suggest limitations that wherein the control logic further provides a sleep state that is entered upon power up and an isolate state that is entered upon receipt of an isolate command, the sleep and isolate states being dependent upon supplied power, wherein the sleep, isolate and non-responsive states conclude upon receipt of a full wake command, and the sleep and isolate states, but not the non-responsive state, conclude upon receipt of a partial wake command.

Referring to claim 21, the following is a statement of reasons for the indication of allowable subject matter: the prior art fail to suggest limitations that wherein the control logic further provides a sleep state that is entered upon power up and an isolate state that is entered upon receipt of an isolate command, the sleep and isolate states being dependent upon supplied power, wherein the sleep and non-responsive states, but not the isolate state, conclude upon receipt of a full wake command, and the sleep and isolate states, but not the non-responsive state, conclude upon receipt of a partial wake command.

Referring to claim 22, the following is a statement of reasons for the indication of allowable subject matter: the prior art fail to suggest limitations that wherein the control logic further provides a sleep state that is entered upon power up and an isolate state that is entered upon receipt of an isolate command, the sleep and isolate states being dependent upon supplied power, wherein the sleep and non-responsive states, but not the isolate state, conclude upon receipt of a full wake command, and the sleep state,

but not the isolate and non-responsive states, conclude upon receipt of a partial wake command.

Referring to claim 23, the following is a statement of reasons for the indication of allowable subject matter: the prior art fail to suggest limitations that wherein the control logic further provides a sleep state that is entered upon power up and an isolate state that is entered upon receipt of an isolate command, the sleep and isolate states being dependent upon supplied power, wherein the sleep, isolate and non-responsive states conclude upon receipt of a full wake command, and the sleep state, but not the isolate and non-responsive states, conclude upon receipt of a partial wake command.

Referring to claim 28, the following is a statement of reasons for the indication of allowable subject matter: the prior art fail to suggest limitations that wherein the means for entering the deep sleep state comprise: means for preventing premature triggering of the deep sleep state; and means for maintaining the deep sleep state when power is reapplied after loss of the received power.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications form the examiner should be directed to Scott Au whose telephone number is (571) 272-3063. The examiner can normally be reached on Mon-Fri, 8:30AM – 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik can be reached at (571) 272-3068. The fax phone numbers for the organization where this application or proceeding is assigned are (571)-273-8300.

1/24/06

MICHAEL HORABIK
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TECHNOLOGY CENTER 2600